Hepatitis C Testing of Offenders in the Indiana Department of Correction

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The incarcerated population presents health problems related to infectious disease, substance abuse and, frequently, a lifetime of being medically underserved. In particular, this is a population at very high risk for Hepatitis C virus (HCV) and Human Immunodeficiency Virus (HIV). Prisons and jails offer uniquely important opportunities for improving disease control in the community by providing health care and disease prevention programs to a large and concentrated population of individuals at high risk for disease.

The prison setting poses special problems related to the transmission of HCV. An infected syringe might be used by perhaps a hundred different offenders because no other needles are available. Violent sexual assaults by an infected offender can also spread the disease.

Mandatory HCV and HIV testing for offenders sentenced to Department of Correction (DOC) facilities began on July 1, 2002. The DOC obtains a blood sample from offenders to test for syphilis also; however, syphilis testing is not mandated by law. HIV and HCV testing are dictated by HEA 1207, which was passed in 2001 and vetoed. The veto was overridden in 2002, and mandated testing began for offenders sentenced to the DOC after June 30, 2002. The new statute did not apply to the nearly 21,000 offenders incarcerated in the DOC prior to July 1, 2002, nor did it apply to offenders sentenced to county jails or community correction programs.

To comply with the provisions of the new law, the DOC tests offenders upon arrival at the intake facility. Adult male intake takes place at the Reception-Diagnostic Center in Plainfield, and adult females are received at the Indiana Women's Prison Intake Unit in Indianapolis. Male juvenile offenders are tested at the North Central Juvenile Correctional Facility in Logansport, and female juvenile offenders are received at the Indianapolis Juvenile Correctional Facility.

From July 1, 2003, through September 30, 2003, the DOC administered 4,434 hepatitis C tests to offenders at the intake facilities around the state. Of these HCV tests, 673 yielded positive results, which is a rate of about 15%. This incidence of HCV in Indiana prisons compares to rates of over 30% in states like New York and California where intravenous drug use is more of a problem.

Figures 1 and 2 reflect intake at the DOC from July through September of 2003 by race and by gender. Figures 3 and 4 show the number of positive tests for HCV during the same period by the race and gender. Future changes in the way data are collected will facilitate the study of these statistics by enabling larger numbers of offenders to be examined.

Figure 1.

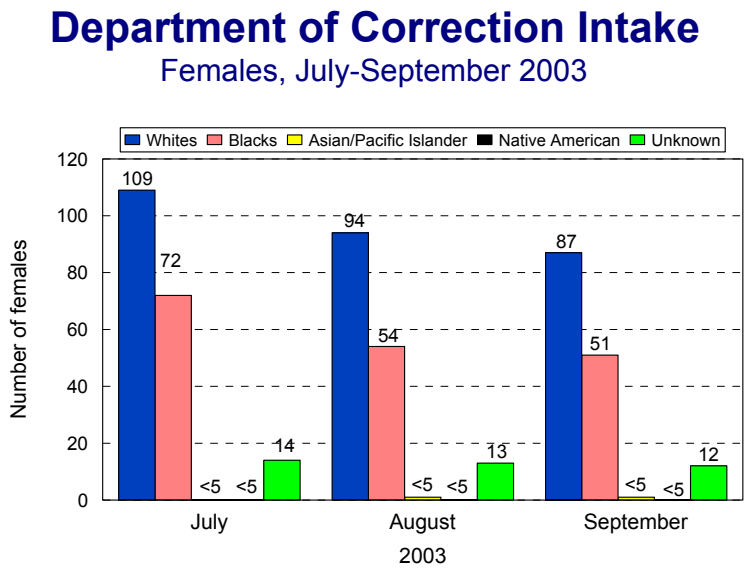


Figure 2.

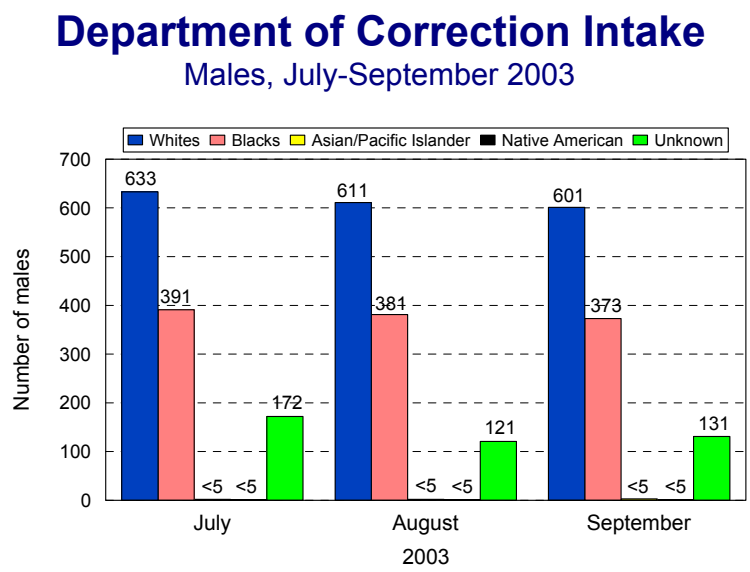


Figure 3.

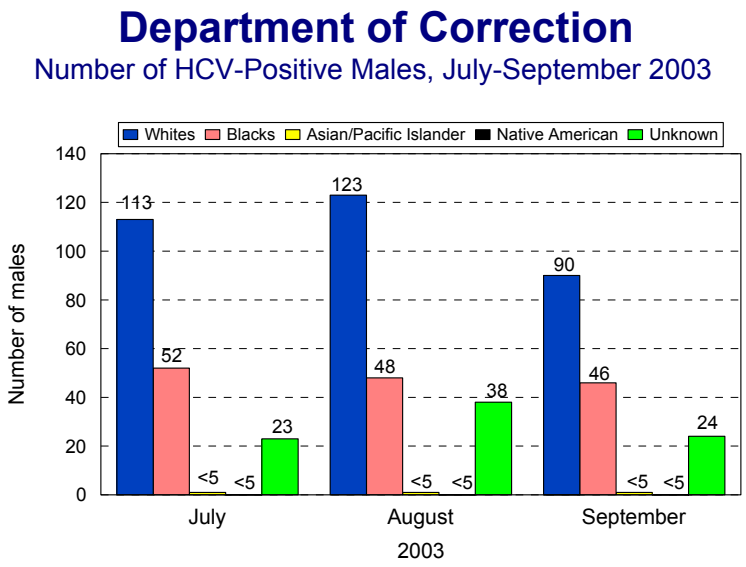
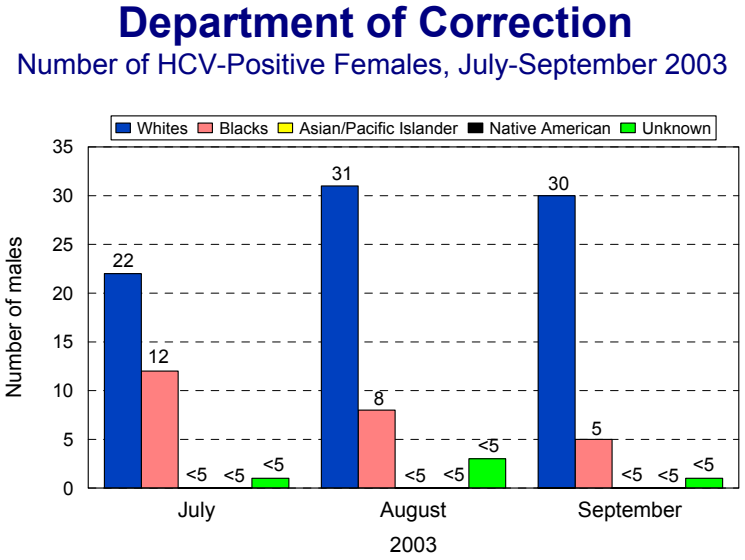


Figure 4.



Of particular interest in the HCV incidence of offenders during this three-month period is the higher rate for females. Their incidence is significantly higher than males, and this is probably explained by differential sentencing practices for women. A greater percentage of female sentences are related to serious drug offenses than the percentage of males incarcerated for these same kinds of drug crimes. Though many men are imprisoned for drug crimes, property offenses account for a higher percentage of

their sentences when compared to women. Given the direct causal relationship between drug use and HCV infection, and the higher rate of women sentenced for drugs relative to men, the higher incidence of HCV infection is not surprising.

The presence of HCV infection requires a diagnostic evaluation that begins with a history and monitoring for the presence of liver inflammation, includes identification of alternative causes of liver inflammation, and examines related clinical conditions. HCV infection is not fully diagnosed until a test for the presence of HCV nucleic acid (RNA) is positive. This is not required unless liver biopsy or medication therapy is contemplated.

Alanine aminotransferase levels (ALTs) should be obtained every three months. If ALT elevation persists longer than six months, significant ongoing liver inflammation is present. ALTs that are consistently less than twice the upper limit of normal provide good evidence that significant inflammation is absent, and that the risk of cirrhosis or primary hepatocellular carcinoma is minimal or nonexistent.

Patients who are being considered for HCV treatment must be carefully counseled by a trained counselor. Treatment for HCV is a long process, generally lasting six months to a year, and requires careful monitoring. Uncomfortable side effects are routine for the entire period, and unmotivated patients are unlikely to complete the therapy.

Criteria for medication treatment include:

- ALTs are persistently greater than twice the upper limit of normal (not including any test obtained during the first three months of incarceration.) Alternate causes of ALT elevation inflammation have been ruled out and the ALT elevation is ascribed to the HCV infection.
- The patient has been diagnosed as infected with HCV and has had a positive serologic test. The patient has not had repeatedly negative qualitative assays for HCV nucleic acids.
- The patient is well informed regarding the disease and proposed therapy.
- The patient is willing and competent to sign informed consent for treatment.

Exclusion Criteria:

- clinical signs of liver failure or "decompensated" cirrhosis (any history of ascites, variceal bleeding, hypersplenism, hepatic encephalopathy, etc.);
- serious anemia of any cause (hemoglobin below 12 g% in men or below 11 g% in women);
- bone marrow compromise indicated by neutrophils below 1500 or platelets below 100,000;
- creatinine greater than the upper limit of normal unless clearance has been received from a nephrologist;
- serious cardiac disease unless clearance has been received from a cardiologist;
- serious cerebrovascular disease unless clearance has been received from a neurologist;
- severe pulmonary disease (COPD, asthma, etc.) unless clearance has been received from a pulmonary specialist;
- autoimmune disorder (systemic or organ specific) either by diagnosis or by positive anti-nuclear antibody, smooth muscle antibody, or anti-mitochondrial antibody unless clearance has been received from a rheumatologist;
- presence of retinopathy unless clearance has been received from an ophthalmologist;
- history of organ transplant;
- HIV disease with CD_4 below 350 or viral load other than undetectable;
- continuing or recent (previous six months) treatment of a serious mental disorder, especially including psychosis-producing disorders or depressive disorders, unless clearance has been received

from a psychiatrist and the patient will be monitored during treatment;
- history of documented abuse of drugs or alcohol within the preceding 24 months, expectation that injection drug or alcohol use will resume upon release from incarceration, or failure successfully to complete substance abuse therapy;
- pregnancy or refusal to avoid pregnancy during and for at least six months after cessation of therapy whether the patient is male or female (two methods of birth control used simultaneously must be intended);
- history of non-adherence to medical therapy during the previous two years; and
- short life expectancy (less than 10 years).

If after review of inclusion and exclusion criteria the patient remains a candidate for medication therapy, the genotype of the infecting HCV should be determined. If the genotype is 1, 4, 5, or 6, referral for liver biopsy is indicated. These genotypes are relatively resistant to medication therapy and only those whose livers demonstrate ongoing significant inflammation and necrosis should be treated. If the genotype is 2 or 3, liver biopsy is not necessary. These genotypes are relatively sensitive to medication therapy and treatment can be initiated without first resorting to liver biopsy.

The most effective therapy available is currently a combination of pegylated interferon and ribavirin, with dosage adjusted for patient weight. The success of treatment is initially gauged by monitoring viral load. Viral load must be determined prior to medication initiation and again after three months of therapy. If the viral load has dropped at least two logs (or to undetectable levels), treatment should be continued for the full duration as planned according to genotype (24 weeks for types 2 and 3, 48 weeks for other types). If the viral load has not dropped at least two logs, treatment will not be successful and should be stopped. Patients in this category should be assured that, if newer and more effective treatments become available, they will be considered for them at that time.

Treatment for HCV is successful in 50% to 60% of patients. Studies have shown that five factors are good predictors of successful treatment:

1. Female sex
2. Age below 40 years
3. Genotype 2 or 3
4. HCV viral load below 3,500,000
5. Liver biopsy demonstrating portal fibrosis or less severity

Offenders who test positive for HCV but do not qualify for drug therapy receive counseling and education on how to manage the disease and strategies for not spreading it to others. The Hepatitis C Coordinator at the Indiana State Department of Health (ISDH) is working closely with the DOC in helping to structure these counseling messages and in determining how such education is most effectively delivered to offenders.

All offenders entering the DOC are tested for HCV, but some offenders are released prior to receiving their test results. Though there is no state statute requiring the ISDH to notify individuals of their HCV status, the Hepatitis Unit of the ISDH Division of HIV/STD works with trained staff around the state to inform offenders of their test results and deliver educational messages about the virus so the disease can be managed as much as possible.

Reference:

- Health Care Services Directive Number: HCSD-3.09